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### REMARKS

In the Office Action, the Examiner rejected claims 42-44 under 35 U.S.C. §112, second paragraph; rejected claims 1-16, 20, and 45-49 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,322,256 issued to Inada et al.; rejected claims 26 and 37-41 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,364,539 issued to Shahid; rejected claims 17-19, 26-32 and 34-36 under 35 U.S.C. §103(a) as being unpatentable over Inada et al.; and rejected claims 21-25 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,608,827 issued to Boscher et al. in view of Shahid.


By this Amendment, Applicants have canceled claims 40-44 without prejudice, and have amended claims 1, 17, 23-26, 34, 45, and 46 in order to more clearly define the present invention. Claims 8-16, 21, 33, and 47-49 have been amended to correct typographical errors. Claims 1-39 and 45-49 are now pending.

Applicants wish to thank the Examiner for his time and courtesy during a telephone interview conducted on July 14, 2003. During the interview, claims 1, 17, 26, 40, 42, and 45 were discussed.

The prior art discussed included Inada et al., Boscher et al., and Shahid. No exhibits were shown or discussed. Applicants proposed amendments to claims 1 and 26 whereby an actual value for the core concentricity or ovality would be added to these claims. The Examiner indicated that such an amendment would likely overcome the rejections of these claims. Applicants also proposed an amendment to claim 45 whereby the phrases "a rounded square," "a rounded rectangle," and "a two-wafer type formed from two wafers comprising matching grooves which form capillaries when the wafers are aligned" were removed. The Examiner indicated that such an amendment would appear to overcome the rejection of claim 45, which was based on Inada et al. The general thrust of Applicants' principle arguments is discussed further below.

Applicants respectfully traverse the rejection of claims 42-44 under 35 U.S.C. §112, second paragraph. Nevertheless, in order to expedite the prosecution of this application, Applicants have canceled claims 42-44 without prejudice.

Applicants respectfully traverse the rejection of claims 1-16, 20, and 45-49 under 35 U.S.C. §102(e) as being anticipated by Inada et al. for the reasons stated below.



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With respect to independent claim 1, Inada et al. fails to disclose an optical subassembly comprising at least a ferrule having a capillary extending axially through the ferrule and at least four optical fibers positioned inside of the capillary, where "said optical fibers satisfying predetermined tolerances for core concentricity and the outer dimension of the cladding, wherein the tolerance for said core concentricity is equal to or less than about 1.0  $\mu\text{m}$ ."

During the interview, the Examiner noted his contention made in the Office Action relative to claims 17-19 that it would have been obvious to select the precise tolerances for the fibers since "discovering optimum or workable ranges involves only routine skill in the art." Applicants pointed out, however, that MPEP 2144.II.B. states:

A particular parameter must first be recognized as a result-effective variable, *i. e.*, a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977).

Applicants further stated that the prior art is silent as to the need to establish predetermined tolerances for ovality or core concentricity. The fact that the prior art does not recognize the need for establishing tolerances for ovality or core concentricity suggests that those skilled in the art considered all fibers to be acceptable for use without need for further screening. Thus, these parameters were not recognized in the art as result-effective variables and therefore the determination of an optimum range of tolerances for ovality and core concentricity cannot be characterized as mere routine experimentation. During the interview, the Examiner agreed that amending claim 1 to recite a specific value for ovality or core concentricity would overcome the rejection.

Because Inada et al. fails to teach or suggest the above noted features of independent claim 1, Applicants submit that claim 1 is allowable over Inada et al. Claims 2-16 and 20 depend from independent claim 1 and thus are allowable for at least the reasons stated above with respect to claim 1.

With respect to independent claim 45, Inada et al. fails to disclose a fiber ferrule for use in multiple-port optical devices, where the ferrule comprises at least a cylindrical glass rod comprising at least one capillary, wherein "the capillary configuration is selected from the group consisting of a

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dual-oval, a four-circular capillary, and a capillary using at least one alignment washer.” As noted above, the specific amendment made to claim 45 was discussed during the interview with the Examiner agreeing that Inada et al. fails to disclose a capillary that is so configured. Claim 45 is therefore allowable over Inada et al. Claims 46-49 depend from independent claim 45 and thus are allowable for at least the reasons stated above with respect to claim 45.

Applicants respectfully traverse the rejection of claims 26 and 37-41 under 35 U.S.C. §102(e) as being anticipated by Shahid, for the reasons stated below.

With respect to independent claim 26, Shahid fails to disclose a fiber optic subassembly comprising at least a ferrule having at least two fiber capillaries extending axially through the ferrule, and “at least four optical fibers positioned inside said capillaries, said optical fibers satisfying predetermined tolerances for core concentricity and the outer dimension of the cladding of said fibers, wherein the tolerance for said core concentricity is equal to or less than about 1.0  $\mu\text{m}$ .” During the interview, the Examiner agreed that neither Shahid, nor any other reference he was aware of, disclosed the above features. Accordingly, independent claim 26, as well as claims 37-39, which depend therefrom, are allowable over Shahid.

Although Applicants do not agree with the Examiner’s rejection of independent claim 40, Applicants have elected to cancel claim 40 along with claim 41, in order to expedite the prosecution of this application.

Applicants respectfully traverse the rejection of claims 17-19, 26-32 and 34-36 under 35 U.S.C. §103(a) as being unpatentable over Inada et al. for the reasons stated below.

Claims 17-19 depend from claim 1 and are allowable for at least those reasons stated with respect to claim 1.

With respect to independent claim 26, as noted above with respect to claim 1, Inada et al. fails to mention anything regarding core concentricity, let alone the need to establish the specifically recited predetermined manufacturing tolerance therefor. Accordingly, independent claim 26 is allowable over Inada et al.

Claims 27-32 and 34-36 depend from independent claim 26 and are allowable for at least the reasons stated above with respect to claim 26. Further, with respect to claims 34-36, Applicants

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submit that the claimed parameters are not known result-effective variables and are thus not mere optimizations.

Applicants respectfully traverse the rejection of claims 21-25 under 35 U.S.C. §103(a) as being unpatentable over Boscher et al. in view of Shahid. Applicants submit that claims 21-25, which depend from claim 20, which in turn depends from independent claim 1, are allowable for at least the reasons stated above with respect to claim 1. Neither Boscher et al. nor Shahid teaches or suggests the features of claim 1. Further, with respect to claims 23-25, Applicants submit that the tolerance for the diameter of the alignment rod was not a known result-effective variable, and thus optimizing the tolerance for the alignment rod diameter would not have been obvious.

In view of the foregoing amendments and remarks, Applicants submit that the present invention, as defined by the pending claims, is allowable over the prior art of record. The Examiner's reconsideration and timely allowance of the claims is requested. A Notice of Allowance is therefore respectfully solicited.

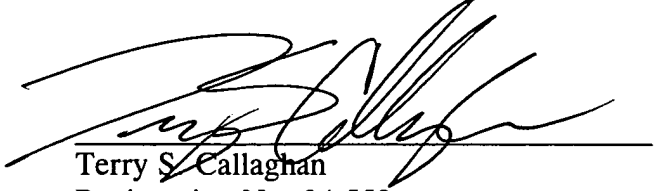
Respectfully submitted,

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